Notice of Allowability	Application No.	Applicant(s)	
	09/489,676	MERIC ET AL.	
	Examiner	Art Unit	
	VAN H. NGUYEN	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Applicant's amendments and supporting arguments filed 12/15/04*.

2. ☒ The allowed claim(s) is/are *1-33, 35-40, and 47 (now renumbered as 1-40)*.

3. ☐ The drawings filed on _____ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

ST. JOHN COURTENAY III
PRIMARY EXAMINER

Examiner's Amendment

I. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

II. Authorization for this examiner's amendment was given in a telephone interview with Mr. Jonathan Osha (Reg. No. 33, 986) on April 28, 2005.

III. **The application has been amended as follows:**

All previous copies of claims 1-33, 35-40, and 47 have been replaced with the following clean copy of claims 1-33, 35-40, and 47 as amended by the Examiner's amendment:

1. A computer-implemented method of communicating data, via a device driver, between an application and an interface having a feature to which an interface identifier is assigned, the method comprising:

storing a logical identifier corresponding to the feature;

providing the logical identifier to the application for directing communication associated with the feature between the device driver and the application; and

maintaining correspondence between the logical identifier and the feature independently

of the interface identifier assigned to the feature so that communication between the application and the device driver directed using the logical identifier remains associated with the feature following a change in the assignment of the interface identifier to the feature after an event;

wherein the application, the interface, and the device driver communicate internal to a device; and

wherein the communication between the application and the device driver is not effected by changes to the interface identifier.

2. The computer-implemented method according to Claim 1, wherein communication between the interface and the device driver is directed based on the interface identifier.

3. The computer-implemented method according to Claim 1, including compiling a list of logical identifiers and corresponding interface identifiers for the feature if the feature meets a predetermined criterion.

4. The computer-implemented method according to Claim 1, wherein the device driver is arranged to communicate the interface identifier assigned to the logical identifier to the application on request.

5. The computer-implemented method according to Claim 1, wherein the device driver is arranged to accept requests from the application to define connections between physical devices to a bus using the logical identifier in place of the interface identifier.

6. The computer-implemented method according to Claim 1 wherein the application is arranged to communicate with the device driver via device manager means.

7. The computer-implemented method according to Claim 1 wherein the feature of the interface comprises a peripheral connected to the interface and the interface identifier comprises a physical address assigned to the peripheral, the logical identifier comprising a logical address assigned to the peripheral.

8. The computer-implemented method according to Claim 7, wherein said maintaining correspondence includes interrogating the peripheral to which the logical address is assigned to determine the physical address assigned to the peripheral following a bus reset.

9. The computer-implemented method according to Claim 7, wherein the device driver is arranged to communicate the interface identifier assigned to the logical identifier to the application on request, and further comprising communicating the interface identifier for the peripheral by communicating the physical address of the peripheral and communicating a unique node identifier containing further information identifying the peripheral.

10. The computer-implemented method according to Claim 1, wherein the feature of the interface comprises a channel of defined parameters available via the interface and the interface

identifier comprises an interface channel number, the logical identifier comprising a logical channel identifier.

11. The computer-implemented method according to Claim 10, wherein the device driver is arranged to receive a request from the application to allocate the channel of defined parameters and to return the logical channel identifier if allocation is successful.

12. The computer-implemented method according to Claim 10, wherein the device driver is arranged to accept a preferred interface channel number and to allocate a preferred interface channel if available, and to allocate a free channel if the preferred interface channel is not available or if the preferred interface channel is not specified.

13. The computer-implemented method according to Claim 10, wherein the device driver is arranged to receive an identifier of a preferred interface channel, to recognize a pre-determined key in place of a valid interface channel number as indicating that the preferred interface channel is not specified, and to report an error to the application if other invalid interface channel numbers are specified.

14. The computer-implemented method according to Claim 10, wherein the device driver is arranged to communicate the interface channel number to the application, and at least one other parameter selected from: a maximum rate allocated to the channel; a rate currently available; a number of connections using the channel; and identifiers of each connection using the channel.

15. The computer-implemented method according to Claim 1 wherein the device driver is arranged to accept requests from the application to define one or more connections between physical devices attached to the interface by reference to logical addresses and logical channel identifiers.

16. The computer-implemented method according to Claim 1 wherein the device driver is arranged to establish at least a broadcast connection.

17. The computer-implemented method according to Claim 1 wherein the device driver is arranged to signal the event to the application, the event including reset of a bus or a change in a bus topology or a change in a channel or a change in connection parameters.

18. A device driver executed in a computer system for effecting communication between an application and an interface having a feature to which an interface identifier is assigned, the device driver comprising:

means for storing a logical identifier corresponding to an interface identifier;

means for providing the logical identifier to the application for directing communication associated with the feature between the device driver and the application; and

means for maintaining correspondence between the logical identifier and the feature independently of the interface identifier assigned to the feature so that communication between the application and the device driver directed using the logical identifier remains associated with

the feature following a change in the assignment of the interface identifier to the feature after an event;

wherein the application the interface and the device driver communicate internal to a device; and

wherein the communication between the application and the device driver is not effected by changes to the interface identifier.

19. The device driver according to Claim 18, wherein the device driver is implemented in software.

20. The device driver according to Claim 18, wherein the device driver is arranged to compile a list of logical identifiers and corresponding interface identifiers for the feature if the feature meets a predetermined criterion.

21. The device driver according to Claim 18 including means for communicating the interface identifier assigned to the logical identifier to the application on request.

22. The device driver according to Claim 18, including means for accepting a request from the application to define connections between physical devices connected to a bus using the logical identifier in place of the interface identifier.

23. The device driver according to Claim 18, wherein the feature of the interface comprises a peripheral connected to the interface, and the interface identifier comprises a physical address assigned to the peripheral, the logical identifier comprising a logical address assigned to the peripheral.

24. The device driver according to Claim 23, arranged to interrogate the peripheral to which the logical address is assigned to determine the physical address assigned to the peripheral following a bus reset.

25. The device driver according to Claim 23, including means for communicating the interface identifier assigned to the logical identifier to the application on request, and further comprising means for communicating the interface identifier for the peripheral by communicating the physical address of the peripheral and means for communicating a unique node identifier containing further information identifying the peripheral.

26. The device driver according to Claim 18, wherein the feature of the interface comprises a channel of defined parameters available via the interface and the interface identifier comprises an interface channel number, the logical identifier comprising a logical channel identifier.

27. The device driver according to Claim 26 including channel allocating means arranged to receive a request from the application to allocate the channel of defined parameters and to return the logical channel identifier if allocation is successful.

28. The device driver according to Claim 27, wherein the channel allocating means is arranged to accept a preferred interface channel number and to allocate a preferred interface channel if available, and to allocate a free channel if the preferred interface channel is not available or if the preferred interface channel is not specified.

29. The device driver according to Claim 27, wherein the channel allocating means is arranged to receive an identifier of a preferred interface channel, to recognize a pre-determined key in place of a valid interface channel number as indicating that the preferred interface channel is not specified, and to report an error to the application if other invalid interface channel numbers are specified.

30. The device driver according to Claim 26, including means for communicating the interface channel number to the application, and at least one other parameter selected from: a maximum rate allocated to the channel; a rate currently available; a number of connections using the channel; and identifiers of each connection using the channel.

31. The device driver according to Claim 18 including means arranged to accent requests from the application to define one or more connections between physical devices attached to the interface by reference to logical channel identifiers.

32. The device driver according to Claim 18, including means arranged to establish at least a broadcast connection on request by the application.

33. The device driver according to Claim 18, including means for signaling the event to the application, the event including reset of a bus and a change in a bus topology or a change in a channel or a change in connection parameters.

35. The data processing system according to Claim 47 implemented in a receiver/decoder which includes means for receiving broadcast data, the interface means being arranged for connection to a digital video recorder or a digital display device or a computer for display or storage of at least a portion of the received data.

36. The receiver/decoder according to Claim 35, wherein the device driver means is arranged to cooperate with further device driver means for modifying the broadcast data to produce a modified data stream for passing to said interface means.

37. The receiver/decoder according to Claim 35, wherein the interface means conforms to an IEEE 1394 standard or a variant thereof.

38. The receiver/decoder according to Claim 35, wherein the application is run in an interpreted language and the device driver means is compiled.

39. The receiver/decoder according to Claim 35, wherein the device driver means is arranged to transmit commands for controlling the digital video recorder from the application and/or to receive data concerning information stored on the digital video recorder.

40. The receiver/decoder according to Claim 39, wherein the data is in a MPEG format.

47. A data processing system comprising:

run-time engine means for running an application;

interface means for connection to a device, the interface means having a feature to which an interface identifier is assigned; and

device driver means for effecting communication between the application and the interface means,

the device driver means comprising:

means for storing a logical identifier corresponding to an interface identifier;

means for providing the logical identifier to the application for directing communication associated with the feature between the device driver means and the application; and

means for maintaining correspondence between the logical identifier and the feature independently of the interface identifier assigned to the feature so that communication between the application and the device driver means directed using the logical identifier remains associated with the feature following a change in an assignment of the interface to the feature after an event;

wherein the application, the interface, and the device driver communicate internal to a device; and

wherein the communication between the application and the device driver is not effected by changes to the interface identifier.

IV. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for patents
P O Box 1450
Alexandria, VA 22313-1450

VHN

ST. JOHN COURTENAY III
PRIMARY EXAMINER